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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--------------------------------------------------------------------------------------------------------------|-------------|----------------------|---------------------|------------------|
| 10/672,720 | 09/29/2003 | Xianrui Huang | 134199 | 1109 |
| 6147 | 7590 | 03/26/2004 | EXAMINER | |
| GENERAL ELECTRIC COMPANY GLOBAL RESEARCH PATENT DOCKET RM. BLDG. K1-4A59 SCHENECTADY, NY 12301-0008 | | | ARANA, LOUIS M | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2859 | |

DATE MAILED: 03/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|----------------------------|------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/672,720 | HUANG ET AL. | |
| | Examiner Louis M. Arana | Art Unit 2859 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on _____.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-45 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
 5) Claim(s) ____ is/are allowed.
 6) Claim(s) 1-9, 11, 13-24, 26, 27 and 29-45 is/are rejected.
 7) Claim(s) 10, 12, 25 and 28 is/are objected to.
 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on ____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date 9/03.

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date _____.
 5) Notice of Informal Patent Application (PTO-152)
 6) Other: _____.

DETAILED ACTION

Specification

1. Claims 10 and 28 are objected to because of the following informalities: Claim 10 recites a "metal plug" where it is clear that applicant intended "magnet plug" for consistency with claim 9. Also the specification concludes with two claims that are numbered 28. One of the claims numbered 28 depends from itself. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-9, 11, 13-24, 26-27 and 29-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyamoto et al. P.N. 4,672,346 (Miyamoto) in view of Sellers P.N. 5,431,165.

Miyamoto discloses a permanent magnet assembly. Applicant's attention is directed to Fig. 11 and corresponding description. Permanent magnets fixed to a support or yoke 3, have holes 18 on which are inserted in movable arrangement shim rods or plugs 19. Actuators 21, in the form of screws, effect the movement of plugs 19. The magnet assembly is intended for NMR-CT, which is for generating images of a subject. The difference between the prior art as represented by Miyamoto and the claims at issue is that Miyamoto does not specifically describe movable plug or shim 19 as made of a permanent magnet. In fact, plug 19 is only described as a "rod-like soft magnetic material". This difference however, would have been obvious to the artisan of ordinary skill in the art at the time the invention was made. The use of permanent magnets for shimming of magnetic fields in the MRI magnet construction art is well known. One example of this, are the teachings of Sellers. Sellers in an arrangement similar to Miyamoto's (see Fig.3 e.g.) teaches the use of permanent magnetic material, which may include ferro-magnetic material. See col. 2 lines 63-65. The use of such permanent magnet material including a combination with a metal backing plate in Miyamoto, would result in the instant invention as claimed.

Allowable Subject Matter

5. Claims 12 and 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Rappaport P.N. 6,670,877 discloses a magnet for MRI having an adjustable magnetic field. See fig 4-9 and corresponding description.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Louis M. Arana whose telephone number is (571) 272-2236. The examiner can normally be reached on M-Thurs. Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego F Gutierrez can be reached on (703) 308-3875. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Louis M. Arana

Application/Control Number: 10/672,720
Art Unit: 2859

Page 5

Primary Examiner
Art Unit 2859

lma
3/11/04